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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,365	08/01/2003	Ronald Cleveland	2293.2011-001	5132
21005	7590	01/10/2005	EXAMINER	
HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133			TRIEU, VAN THANH	
		ART UNIT		PAPER NUMBER
				2636

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/633,365	CLEVELAND ET AL.	
	Examiner	Art Unit	
	Van T Trieu	2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 01 August 2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-32 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-32 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12/20/04</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: It does not include the notary's Signature. The signature of inventor's **Ronald Cleveland** is missing.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 8-22 and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ragland et al [US 6,437,702]**.

Regarding claim 1, the claimed apparatus for detecting an object in a cargo trailer comprising: a sensor mounted along a first wall of the trailer, the sensor having a pair of ultrasonic transducers having multiple operation modes with different ranges, with at least one operation mode scanning an area of the cargo trailer adjacent a distal end of the trailer from the first wall on which the sensor is mounted (the transceiver assembly 120 having ultrasonic transmitting sensors 204 and 206, see Figs. 1, 2 and 7, col. 1,

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lines 62-67, col. 2, lines 1-45, col. 3, lines 21-52, col. 4, lines 30-67 and col. 5, lines 1-40); and the trailer tracking control unit connected to the sensor, the control unit controlling the sensor and receiving data from the sensor (the controller 126, see Fig. 1, col. 3, lines 39-59); but **Ragland et al** fails to disclose the power source electrically connected to the sensor. However, **Ragland et al** teaches that the ultrasonic transceiver assembly 120 is electrically connected to controller 126 for transmitting report information to a remote base/center station via antenna 128, see Fig. 1, col. 3, lines 27-67 and col. 4, lines 1-67 and col. 5, lines 1-53. Since the ultrasonic transceiver assembly and electronic/computer controller are powered by electricity for operation, it would have been obvious to one skill in the art to recognize that the ultrasonic transceiver assembly is electrically powered by the battery of a tractor/trailer or by an independent battery from the tractor/trailer.

Regarding claim 2, all the claimed subject matters are discussed in respect to claim 1 above and including long range and short range, see Figs. 1 and 2, col. 5, lines 12-34.

Regarding claim 3, all the claimed subject matters are discussed in respect to claim 2 above.

Regarding claim 4, all the claimed subject matters are discussed in respect to claim 2 above and including loading door 110, see Fig. 1, col. 5, lines 12-22.

Regarding claim 8, all the claimed subject matters are discussed in respect to claim 2 above and including scanning a floor of the cargo trailer, see Fig. 1.

Regarding claim 9, all the claimed subject matters are discussed in respect to claim 2 above and including short range, see Fig. 1, col. 5, lines 30-40.

Regarding claim 10, all the claimed subject matters are discussed in respect to claim 2 above.

Regarding claim 11, all the claimed subject matters are discussed in respect to claim 10 above, and including the proximity mode (distance of about 20 inches, see Fig. 6, col. 6, lines 1-6).

Regarding claim 12, all the claimed subject matters are discussed in respect to claims 2 and 11 above.

Regarding claim 13, all the claimed subject matters are discussed in respect to claim 12 above and including periodically operation, see col. 6, line 63-66.

Regarding claim 14, all the claimed subject matters are discussed in respect to claim 13 above and including continuing operation, see col. 6, lines 63-66.

Regarding claim 15, all the claimed subject matters are discussed in respect to claim 12 above and including lowering output power of the transducer (lower transmitter, see col. 5, lines 31-34).

Regarding claim 16, all the claimed subject matters are discussed in respect to claim 1 above and including central system (the base/center station, see col. 4, lines 23-24).

Regarding claim 17, all the claimed subject matters are discussed in respect to claim 16 above and including detect the presence or absence of cargo in the cargo trailer, see col. 1, lines 62-64.

Regarding claim 18, all the claimed subject matters are discussed in respect to claim 1 above and including the sensor is mounted flush with a nose wall of the trailer, see Fig. 1 and 2.

Regarding claim 19, all the claimed subject matters are discussed in respect to claim 1 above, and including the ultrasonic transducer 204 and 205, see Fig. 2.

Regarding claim 20, all the claimed subject matters are discussed in respect to claim 19 above and including pair of parabolic cone 302, see Figs. 2-4, col. 5, line 53.

Regarding claim 21, all the claimed subject matters are discussed in respect to claim 1 above, and including the ultrasonic transceiver.

Regarding claim 22, all the claimed subject matters are discussed in respect to claim 21 above, see Fig. 2.

Regarding claim 28, all the claimed subject matters are discussed in respect to claim 1 above.

Regarding claim 29, all the claimed subject matters are discussed in respect to claims 11 and 28 above.

Regarding claim 30, all the claimed subject matters are discussed in respect to claims 15 and 28 above.

Regarding claim 31, all the claimed subject matters are discussed in respect to claims 13 and 28 above.

Regarding claim 32, all the claimed subject matters are discussed in respect to claims 14 and 28 above.

3. Claims 5-7 and 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable

over **Ragland et al** [US 6,437,702] in view of **Stringer** [US 6,298,009].

Regarding claim 5, all the claimed subject matters are discussed in respect to claim 4 above, but **Ragland et al** fails to disclose the amplifying signal of at least of the ultrasonic transducers to make up for atmospheric absorption. However, **Ragland et al** teaches that the controller 126 controlling the prescribed time takes into consideration the radius 122a, 124a, and also consider the expected humidity and temperature of air in the freight car, frequency of transmitted ultrasonic signal etc, see Figs. 1-4, col. 6, lines 37-50. **Stringer** suggests that the ultrasonic sensors 12, 14 and 16 are used to detect the presence and absence of an object in the near field of the reflected ultrasonic wave sensors. The control unit 200 processing the measured traveling time to compensate for variations in humidity, temperature and pressure in order to produce a more accurate result, see Figs. 1, 6 and 7, col. 5, lines 30-36, col. 8, lines 63-67, col. 9, lines 1-27 and col. 13, lines 33-38. Therefore, it would have been obvious to one skill in the art to recognize that the controller of **Ragland et al** is functioning to compensate for the cargo trailer environment condition such as of the controller of **Stringer** for providing a more accurate detection results.

Regarding claim 6, all the claimed subject matters are discussed between **Ragland et al** and **Stringer** in respect to claim 5 above.

Regarding claim 7, all the claimed subject matters are discussed between **Ragland et al** and **Stringer** in respect to claim 6 above.

Regarding claim 23, all the claimed subject matters are discussed between **Ragland et al** and **Stringer** in respect to claims 1 and 5 above.

Regarding claim 24, all the claimed subject matters are discussed between **Ragland et al** and **Stringer** in respect to claims 6 and 23 above.

Regarding claim 25, all the claimed subject matters are discussed between **Ragland et al** and **Stringer** in respect to claims 7 and 24 above.

Regarding claim 26, all the claimed subject matters are discussed between **Ragland et al** and **Stringer** in respect to claims 5 and 23 above.

Regarding claim 27, all the claimed subject matters are discussed between **Ragland et al** and **Stringer** in respect to claim 23 above.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Keillor et al discloses an asset monitor for providing a remotely located central station with information relating to a trailer.[US 5,917,433]

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Grasmann et al discloses a vehicle interior being monitored by comparison of at least one storage sample signal with a signal picked up on a detector of sound wave from the interior of the vehicle. [US 5,598,141]

Foreman discloses a rug ultrasonic sensor for detecting objects in a very close proximity to the sensor including a power supply, a controlled processor and a transducer. [US 5,917,776]

Little discloses a proximity sensing system including an improved variable inductance measuring technique for compensating atmospheric condition such as temperature and humidity. [US 4,219,740]

5. Any inquiry concerning this communication or earlier communications from examiner should be directed to primary examiner **Van Trieu** whose telephone number is (571) 272-2972. The examiner can normally be reached on Mon-Fri from 7:00 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. **Jeffery Hofsass** can be reached on (571) 272-2981.



Van Trieu
Primary Examiner
Date: 1/7/05